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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/829,541 | 04/22/2004 | Yan Margulis | A4-156 US | 7336 |
| 23683 | 7590 | 05/19/2005 | EXAMINER | |
| MOLEX INCORPORATED 2222 WELLINGTON COURT LISLE, IL 60532 | | | ZARROLI, MICHAEL C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2839 | |

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/829,541

Applicant(s)

MARGULIS ET AL.

Examiner

Michael C. Zarroli

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 13-17 is/are rejected.
- 7) ☒ Claim(s) 6, 12, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4/22/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the drawings seem to be informal since the numerals are hard to read. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

2. Applicant is advised that should claim 1 be found allowable, claim 7 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Objections

3. Claim 13 objected to because of the following informalities: In line 14 “a mating connector” should be –the mating connector--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 5, 7-8, 11 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Frantz et al.

Frantz discloses an electrical connector (19) for mounting on a printed circuit board (13) which includes a mounting surface (fig. 2), an opposite mating surface (fig. 1), a locating hole (17) and a terminal-receiving aperture (37), comprising: a dielectric housing (20) having a front board-mounting face (fig. 5 top surface) for mounting against the mounting surface of the printed circuit board (fig. 2), at least one terminal-receiving passage (31) having a front opening in the front board-mounting face and alignable with the terminal-receiving aperture in the printed circuit board (figures 2 & 3), and an alignment boss (29) projecting from the front board-mounting face (fig. 1) and insertable into the locating hole in the printed circuit board (figures 1 & 3), the alignment boss having a guide hole (26) for receiving a guide post (16) from a complementary mating connector (1) at the mating surface of the printed circuit board (fig. 1); and a conductive terminal mounted on the housing and including a tail portion (35) outside the housing (fig. 11) for connection to an appropriate circuit trace on the printed circuit board, and a contact portion inside the terminal-receiving passage (fig. 10) of the housing for engaging an appropriate terminal of the complementary mating connector.

Regarding claims 2 and 8 Frantz discloses that said alignment boss projects through the locating hole in the printed circuit board from the mounting surface of the board to a location generally flush with the mating surface of the board (fig. 1).

Regarding claims 5 and 11 Frantz discloses that said dielectric housing is elongated and including a pair of said alignment bosses (fig. 4) near opposite ends of the elongated housing, the bosses being insertable into a pair of spaced locating holes (fig. 3 at 17) in the printed circuit board.

6. Claims 13-14, 17 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Frantz et al.

Frantz discloses an electrical connector assembly for mounting on a printed circuit (13) board which includes a mounting surface (fig. 2), an opposite mating surface (fig. 1), a locating hole (17) and a terminal-receiving aperture (37), comprising: a header connector including a dielectric housing (20) having a front board-mounting face (fig. 5 top surface) for mounting against the mounting surface of the printed circuit board (fig. 2), at least one terminal-receiving passage (31) having a front opening in the front board-mounting face and alignable with the terminal-receiving aperture in the printed circuit board (figures 2 & 3), and an alignment boss (29) projecting from the front board-mounting face (fig. 1) and insertable into the locating hole in the printed circuit board (figures 1 & 3), the alignment boss

having a guide hole (26), and a conductive terminal mounted on the housing and including a tail portion (35) outside the housing (fig. 11) for connection to an appropriate circuit trace on the printed circuit board, and a contact portion inside the terminal-receiving passage (fig. 10) of the housing for engaging an appropriate terminal of the complementary mating connector; and a (sic the) mating connector at the mating surface of the printed circuit board (fig. 15), the mating connector including a terminal (6) for engaging the conductive terminal of the header connector and a guide post (16) for insertion into the guide hole in the alignment boss from the mating surface of the printed circuit board.

Regarding claim 14 Frantz discloses that said alignment boss projects through the locating hole in the printed circuit board from the mounting surface of the board to a location generally flush with the mating surface of the board (fig. 1).

Regarding claim 17 Frantz discloses that said dielectric housing is elongated and including a pair of said alignment bosses (fig. 4) near opposite ends of the elongated housing, the bosses being insertable into a pair of spaced locating holes (fig. 3 at 17) in the printed circuit board.

Claim Rejections - 35 USC § 103

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-4 and, 9-10 and, 15-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Frantz et al as applied to claims 1, 7 and, 13 respectively above, and further in view of Consoli et al.

Frantz does not disclose that the boss is flared or that the housing has a flexible latch.

Consoli discloses an alignment boss with a flared mouth (unnumbered figures 12 & 13) or that the housing has a flexible latch (either side of figures 12 & 13) for engagement with the PCB.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the connector of Frantz to include a flare in the boss and to include a flexible latch for engagement with the PCB as taught by Consoli.

These modifications are well known in the art. The motivation for these changes would be to enable a less stressful mating process. Less chance for damaging inserted contacts.

Allowable Subject Matter

10. Claims 6, 12 and, 18-19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

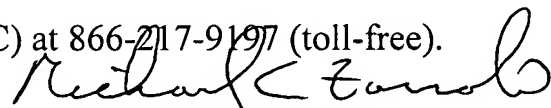
11. The following is a statement of reasons for the indication of allowable subject matter: Specifically the elongated slot in the PCB.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 571-272-2101. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, T.C. Patel can be reached on (571) 272-2800 ext 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Zarroli
Primary Examiner
Art Unit 2839

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